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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,188	11/14/2001	Jennifer Q. Trelewicz	BLD920010020US1	7008

7590 04/23/2007  
Brian C. Kunzler  
8 East Broadway  
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Salt Lake City, UT 84111

EXAMINER
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ROGERS, SCOTT A

ART UNIT	PAPER NUMBER
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2625

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/23/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/993,188	TRELEWICZ, JENNIFER Q.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Scott A. Rogers	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 12-14, 19-23 and 28-31 is/are rejected.
- 7) ☒ Claim(s) 6-11, 15-18, 24-27 and 32-35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)                         |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application               |
| Paper No(s)/Mail Date _____  | 6) <input checked="" type="checkbox"/> Other: <u>Detailed Action (p. 2-6)</u> . |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 12-14, 19-23, and 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fallon (US 6624761 B2) and Kageyama et al (US 6567180 B1) in view of Uchida et al (US 6744921 B1).

#### Referring to claims 1 and 19:

Fallon discloses an apparatus, and its method of operation, for lossless compression of bi-tonal raster data, the apparatus comprising: a data channel configured to carry a raster data stream (input data buffer 20), a pattern detection module 1300 operably connected to the data channel and configured to receive raster data, the pattern detection module configured to detect a separate type of pattern in the raster data, each pattern capable of a separate lossless representation, and a formatting module 1350 configured to place the lossless representations into a compressed data stream. See col. 16, lines 17-39.

While Fallon does not disclose the raster data stream from a print controller (output to a print mechanism), such a feature is well known in the prior art such as taught in Kageyama et al. See flow of data stream from spool control section 2110 to

RIP section 2310, then raster data stream to compression section 2320, work section 2400, printer control section 2510, output section 2600, and finally to printer engine 500.

It would have been obvious to one of ordinary skill in the art to have incorporated the data compression technique taught by Fallon into the printing system taught by Kageyama et al in order to provide an efficient combination of content independent and dependant data compression techniques and achieve maximum compression in accordance with a real-time or pseudo real-time data rate constraint.

While Fallon does not disclose a plurality of pattern detection modules per se, including an edge pattern detection module, such modules and their use are well known in the prior art such as taught in Uchida et al. See Fig. 6 and corresponding disclosure and note edge detector 115.

It would have been obvious to one of ordinary skill in the art to have modified the combination of Fallon and Kageyama et al, in view of Uchida et al, with a plurality of these pattern detection modules, replacing the single pattern detection module 1300, in order to increase device modularity and improve performance. Having separate pattern detection modules permits more flexibility in module selection, cost, performance, and replacement. Improved recognition of different data types or patterns allows proper processing and improved reproduction quality, particularly with black characters.

Referring to claims 2 and 23:

Fallon further comprises the pattern selection module configured to select the lossless representation that is most compact. See col. 18, line 59 to col. 19, line 24.

Referring to claim 3:

Fallon further comprises a module 1340 configured to receive raster data and provide verbatim raster data (null data), the verbatim raster data being an identical and lossless representation of the raster data. See col. 19 line 61 to col. 20, line 8.

Referring to claim 20:

In Fallon, detecting a plurality of patterns and generating the lossless representations are conducted in a single pass, not multiple passes. This is why the encoders for the different patterns of raster data are provided in parallel.

Referring to claims 4-5 and 21-22:

The well-known plurality of pattern detection modules referred to above include a solid pattern detection module and a half-tone pattern detection module.

Referring to claims 12-14 and 28-31:

These are the corresponding claims directed to the apparatus and method for decompressing losslessly compressed bi-tonal raster data, which Fallon addresses in Figures 11-12. In any event, the claimed decoding procedure and structure would have to be substantially followed and used as already argued by applicant.

***Allowable Subject Matter***

Claims 6-11, 15-18, 24-27, and 32-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Cited Art***

The art made of record and not relied upon is considered pertinent to applicant's disclosure. Varga et al (US 6819440) also teaches a raster data stream from a print controller/processor 106 to a printer 119.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott A Rogers whose telephone number is 571-272-7467. The examiner can normally be reached Monday through Friday 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Coles can be reached at 571-272-7402.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC2600 Customer Service at 571-272-2600. Official correspondence by facsimile should be sent to 571-273-8300. The USPTO contact Center phone numbers are 800-PTO-9199.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
SCOTT ROGERS  
PRIMARY EXAMINER

15 April 2007